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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER				
NGUYEN, THANH T				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/736,630

Applicant(s)

NAKAMURA ET AL.

Examiner

Thanh Tammy Nguyen

Art Unit

2144

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE (3) MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on January 10, 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 3-6 and 8-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3-6 and 8-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date _____



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Detailed Office Action

1. This action is in response to the amendment filed on January 10, 2008.
2. Claims 1, 3-6, 8-16 are pending.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. *Claims 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Loucks et al., (hereinafter Loucks) U.S. Patent No. 5,634,122 in view of Johnson et al., (hereinafter Johnson) U.S. Patent No. 5,175,851.*
5. As to claim 15, Loucks disclose the invention substantially as claimed, Loucks disclose including a program embedded on a computer-readable storage medium, wherein the program is executed on a server device for controlling tokens for rights to file reading and writing by a first client connected via a storage device and network

- [see Loucks, col.6, lines 8-58] (*tokens represent an authorization to perform a read/write token permits to client from server*) wherein said first client requests a token for rights to file reading or writing [col.9, lines 55-67](*write token requested by a client*), and wherein said program cause the server device to : send a request for a return of said token for rights to file, to a second client that holds rights to read or write on a file [see Loucks, col. 7, lines 57-61] (*mtkr maintains a list of the acquired tokens, and when mtkr receives a "token revoke" request from mtkm, it returns the required token mtkm as requested*). Wherein said request includes information identifying said first client that requested said token for said file, and information indicating a level of said token requested by said request client, said level being either read or write [see col.9, lines 55-67] (*Token is a write token requested by a client*).
6. However, Loucks does not explicitly disclose sending a token revoke request for return of a token for writing rights file.
 7. In the same field of endeavor, Johnson discloses (e.g., system and method for controlling client machine access to a portion of a file with a variable length). Johnson discloses sending a token revoke request for return of a token for writing right file [see Johnson col. 11, lines 35-48, and col. 13, lines 28-45] (*server send revoke token request for return write token to client*).
 8. Accordingly, it would have been obvious to one of ordinary skill in the networking art at the time the invention was made to have incorporated Johnson's teachings of system and method for controlling client machine access to a portion of a file with a variable length with the teachings of Loucks to have sending a token revoke request

- for return of a token for writing right file, for the purpose of allows more efficient use of the data under most circumstances [see Johnson col. 8, line 65 to col.9, line 8].
9. As to claim 16, Loucks disclose the invention substantially as claimed, Loucks disclose including a program executed on a client device for controlling rights to reading and writing of files stored on a storage device connected by a network, by utilizing tokens managed by a server [see Loucks, col.6, lines 8-58] (*tokens represent an authorization to perform a read/write token permits to client from server*), wherein: said program functions as a means for sending files for said token held in said storage section to a client device requesting said token for said file, when a request to revoke a token for rights file is sent from said server [see Loucks, col. 7, lines 57-61] (*mtkr maintains a list of the acquired tokens, and when mtkr receives a "token revoke" request from mtkm, it returns the required token mtkm as requested*). However, Loucks does not explicitly disclose sending a token revoke request for return of a token for writing rights file.
10. In the same field of endeavor, Johnson discloses (e.g., system and method for controlling client machine access to a portion of a file with a variable length). Johnson discloses sending a token revoke request for return of a token for writing right file [see Johnson col. 11, lines 35-48, and col. 13, lines 28-45] (*server send revoke token request for return write token to client*).
11. Accordingly, it would have been obvious to one of ordinary skill in the networking art at the time the invention was made to have incorporated Johnson's teachings of system and method for controlling client machine access to a portion of a file with a

variable length with the teachings of Loucks to have sending a token revoke request for return of a token for writing right file, for the purpose of allows more efficient use of the data under most circumstances [see Johnson col. 8, line 65 to col.9, line 8].

12. *Claims 6, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Loucks et al., (hereinafter Loucks) U.S. Patent No. 5,634,122 in view of Johnson et al., (hereinafter Johnson) U.S. Patent No. 5,175,851, and further in view of John H. Foulston (hereinafter Foulston) U.S. Patent No. 5,884,30 .*

13. As to claim 6, Loucks discloses the invention as claimed, Loucks discloses a file send and receive method utilized in a distributed file system, wherein said distributed file system includes a storage device for holding files [see fig.5 of Loucks, and col. 7, lines 30-37] (*files are stored on non-volatile hard disk 516 and volumes or filesets 514*), multiple clients for carrying out file operations on said storage device [see Loucks, col.5, lines 60-65, and col.7, lines 38-51] (*client A and client B access to carry out file volume by using exporter 512 MDFS*), a server using tokens to control rights to file reading and writing operations by the client [see Loucks, col.6, lines 8-58] (*tokens represent an authorization to perform a read/write token permits to client from server*), and a network connecting said clients [see fig.5 of Loucks, col. 7, lines 40-44] (*client A and client B communicate with 512 via network 506*), and said storage device [see fig.5 of Loucks, and col. 7, lines 30-37] (*files are stored on non-volatile hard disk 516 and volumes or filesets 514 connect to network 506*) said server

[see fig.5 of Loucks, network 506 connect with server 500] said method comprising: making a request to said server for a token for rights to perform said file operations wherein a first client makes the request to said server [see Loucks, col.6, lines 12-18] (*mtkr 418 requester request tokens*); sending, by said server, said token request to a second client that holds write operation rights to said file, so as to request a return of the token for said write operation rights [see Loucks, col. 6, lines 19-27] (*mtkm sends revoke token requests to client (i.e., mtkr 418 of an MDFS client who acquired list of tokens)*), wherein said token revoke request includes information identifying the first client that requested the token for said file [see Loucks, col. 7, lines 57-61] (*mtkr maintains a list of the acquired tokens, and when mtkr receives a "token revoke" request from mtkm, it returns the required token mtkm as requested*), and information indicating a level of the token requested by said first client, said level being either read or write [see col.9, lines 55-67] (*Token is a write token requested by a client*);

14. However, Loucks does not explicitly disclose sending a token revoke request containing information on a client requesting said file, and information showing the contents of a token said client is requesting the return of the token for write operation rights.
15. In the same field of endeavor, Johnson discloses (e.g., system and method for controlling client machine access to a portion of a file with a variable length). Johnson discloses sending a token revoke request containing information on a client requesting said file, and information showing the contents of a token said client is requesting the return of the token for write operation rights [see Johnson col. 11, lines

- 35-48, and col. 13, lines 28-45] (server send revoke token request for return write token to client).
16. Accordingly, it would have been obvious to one of ordinary skill in the networking art at the time the invention was made to have incorporated Johnson's teachings of system and method for controlling client machine access to a portion of a file with a variable length with the teachings of Loucks to have a containing information on a client requesting said file, and information showing the contents of a token said client is requesting, for the purpose of allows more efficient use of the data under most circumstances [see Johnson col. 8, line 65 to col.9, line 8]. However, Loucks does not explicitly disclose sending, by said second client that received said token revoke request the file for said token held in said memory section, to the first client that requested the token for said file.
17. In the same field of endeavor, Foulston discloses (e.g., Updating distributed data files using active token distributed at different times to different sites). Foulston discloses sending, by said second client that received said token revoke request the file for said token held in said memory section, to the first client that requested the token for said file [Foulston, col.4, lines 9-14, and col.45] (*granting permission for file transfer the token and latest version are returned from node G (second client) to node A (first client)*).
18. Accordingly, it would have been obvious to one of ordinary skill in the networking art at the time the invention was made to have incorporated Foulston's teachings of Updating distributed data files using active token distributed at different times to

- different sites with the teachings of Loucks, for the purpose permits update access to the data file only at the node currently holding the respective data token [see col.2, lines 5-7].
19. As to claim 8, Loucks the file filed send and receive method according to claim 6, wherein the file relating to said token sent from said first client that received the token revoke request to said server for said second client that requested said file token [see Loucks, col. 7, lines 57-61] (*when mtkr receives a "token revoke" request from mtkm (i.e., server), it returns list of tokens acquired to server as requested*). However, Loucks does not explicitly disclose the latest information on said storage device does not show.
20. In the same field of endeavor, Johnson discloses (e.g., system and method for controlling client machine access to a portion of a file with a variable length). Johnson discloses the latest information on said storage device does not show [see Johnson, col.5, lines 5-8] (*the file may not be accessing the latest updated data that has just been written*).
21. Accordingly, it would have been obvious to one of ordinary skill in the networking art at the time the invention was made to have incorporated Johnson's teachings of system and method for controlling client machine access to a portion of a file with a variable length with the teachings of Loucks to have the latest information on said storage device does not show, for the purpose of allows more efficient use of the data under most circumstances [see Johnson col. 8, line 65 to col.9, line 8].

22. *Claims 1, 3, and 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Loucks et al., (hereinafter Loucks) U.S. Patent No. 5,634,122 in view of Johnson et al., (hereinafter Johnson) U.S. Patent No. 5,175,85, and further in view of John H. Foulston (hereinafter Foulston) U.S. Patent No. 5,884,30 and further in view of Saidenberg et al., (hereinafter Saidenber) Publication No. US 2003/0110117 A1.*
23. As to claim 1, Loucks disclose the invention substantially as claimed, Loucks disclose including a distributed file system comprising: a storage device for holding files [see fig.5 of Loucks, and col. 7, lines 30-37] (*files are stored on non-volatile hard disk 516 and volumes or filesets 514*), multiple clients for carrying out file operations on said storage device [see Loucks, col.5, lines 60-65, and col.7, lines 38-51] (*client A and client B access to carry out file volume by using exporter 512 MDFS*), a server using tokens to control rights to file reading and writing operations by the clients [see Loucks, col.6, lines 8-58] (*tokens represent an authorization to perform a read/write token permits to client from server*), and a network connecting said clients [see fig.5 of Loucks, col. 7, lines 40-44] (*client A and client B communicate with 512 via network 506*), and said storage device [see fig.5 of Loucks, and col. 7, lines 30-37] (*files are stored on non-volatile hard disk 516 and volumes or filesets 514 connect to network 506*) said server [see fig.5 of Loucks, network 506 connect with server 500], wherein said server contains a token revoke request means (i.e., mtkm 420 located in server 400) for sending a token revoke request for demanding a return of a token

granting rights to write on said file, to a first client that holding said token [see Loucks, col. 6, lines 19-27] (*mtkm sends revoke token requests to client (i.e., mtkr 418 of an MDFS client who acquired list of tokens) when a specific(i.e., write or read) token is requested by another client*),

wherein said token revoke request means sends said token revoke request [see Loucks, col. 6, lines 19-27] (*mtkm sends revoke token requests to client (i.e., mtkr 418 of an MDFS client who acquired list of tokens)*), which including information identifying a second client that requested said file, and information indicating a level of said token requested by said second client, said level being either read or write [see col.9, lines 55-67] (*Token is a write token requested by a client*); and wherein said first client comprises a memory section for holding file data [see Loucks, col. 7, lines 52-60] (*mtkr (i.e., memory session)located in client 402, 408, and maintains a list of acquire token of client*) and a data output means for sending said file held in said memory section and relating to said token, to said server for said second client that requested said token when said token revoke request is received [see Loucks, col. 7, lines 57-61] (*mtkr maintains a list of the acquired tokens, and when mtkr receives a "token revoke" request from mtkm, it returns the required token mtkm as requested*).

24. However, Louck and Johnson do not explicitly disclose a file is loaded from storage device to client.
25. In the same field of endeavor, Saidenberg discloses (e.g., system and method for providing integrated applications availability in a networked computer system).

Saidenberg discloses a file is loaded from storage device to client [see Saidenberg, page.3, paragraph 0045] (*the computer program may be loaded from data storage devices into computer RAM*).

26. Accordingly, it would have been obvious to one of ordinary skill in the networking art at the time the invention was made to have incorporated Saidenberg's teachings of a system and method for providing integrated applications availability in a networked computer system with the teachings of Loucks to have a file is loaded to client from storage device, for the purpose of providing secure, convenient and integrate access to a variety of applications, tools and content in network [see Saidenberg, page. 1, and paragraph 0011].
27. However, Loucks does not explicitly disclose sending a token revoke request containing information on a client requesting said file, and information showing the contents of a token said client is requesting.
28. In the same field of endeavor, Johnson discloses (e.g., system and method for controlling client machine access to a portion of a file with a variable length). Johnson discloses sending a token revoke request containing information on a client requesting said file, and information showing the contents of a token said client is requesting [see Johnson col. 11, lines 35-48, and col. 13, lines 28-45] (*server send revoke token request for read token or write token to read/write granted token*).
29. Accordingly, it would have been obvious to one of ordinary skill in the networking art at the time the invention was made to have incorporated Johnson's teachings of system and method for controlling client machine access to a portion of a file with a

- variable length with the teachings of Loucks to have a containing information on a client requesting said file, and information showing the contents of a token said client is requesting, for the purpose of allows more efficient use of the data under most circumstances [see Johnson col. 8, line 65 to col.9, line 8].
30. As to claim 3, Loucks discloses the distributed file system according to claim 1, wherein the file relating to said token sent from a said first client to the server for said second client that requested said token, contains information not already appearing in the latest information in said storage device [see Loucks, col. 7, lines 57-61] (*when mtkr receives a "token revoke" request from mtkm (i.e., server), it returns list of tokens acquired to server as requested*). However, Loucks does not explicitly disclose the latest information on said storage device does not show.
31. In the same field of endeavor, Johnson discloses (e.g., system and method for controlling client machine access to a portion of a file with a variable length). Johnson discloses the latest information on said storage device does not show [see Johnson, col.5, lines 5-8] (*the file may not be accessing the latest updated data that has just been written*).
32. Accordingly, it would have been obvious to one of ordinary skill in the networking art at the time the invention was made to have incorporated Johnson's teachings of system and method for controlling client machine access to a portion of a file with a variable length with the teachings of Loucks to have the latest information on said storage device does not show, for the purpose of allows more efficient use of the data under most circumstances [see Johnson col. 8, line 65 to col.9, line 8].

33. As to claim 11, Loucks disclose the invention substantially as claimed, Loucks disclose including a client device utilized in a distributed file system, wherein said distributed file system includes a storage device for holding files [see fig.5 of Loucks, and col. 7, lines 30-37] (*files are stored on non-volatile hard disk 516 and volumes or filesets 514*), multiple clients for carrying out file operations on said storage device [see Loucks, col.5, lines 60-65, and col.7, lines 38-51] (*client A and client B access to carry out file volume by using exporter 512 MDFS*), a server using tokens to control rights to file reading and writing operations by the client [see Loucks, col.6, lines 8-58] (*tokens represent an authorization to perform a read/write token permits to client from server*), and a network connecting said clients devices [see fig.5 of Loucks, col. 7, lines 40-44] (*client A and client B communicate with 512 via network 506*), and said storage device [see fig.5 of Loucks, and col. 7, lines 30-37] (*files are stored on non-volatile hard disk 516 and volumes or filesets 514 connect to network 506*) said server [see fig.5 of Loucks, network 506 connect with server 500], said first client device comprising: a memory section for holding file data [see Loucks, col. 7, lines 52-60] (*mtkr (i.e., memory session) located in client 402, 408, and maintains a list of acquire token of client*); and a data output means for sending a relating to a token held in said memory section (i.e., *mtkr maintains a list of the acquired tokens*) to a second client device requested the token for said file when a request for returning said token for rights is received by said first client device from said server [see Loucks, col. 7, lines 57-61] (*mtkr maintains a list of the acquired tokens, and when mtkr receives a "token revoke" request from mtkm, it returns the required token mtkm as requested*).

- Wherein said request includes information identifying said second client that requested said token for said file, and information indicating a level of said token requested by said second client, said level being either read or write [see col.9, lines 55-67] (*Token is a write token requested by a client*).
34. However, Loucks and Johnson do not explicitly disclose a file is loaded from storage device to client.
35. In the same field of endeavor, Saidenberg discloses (e.g., system and method for providing integrated applications availability in a networked computer system). Saidenberg discloses a file is loaded from storage device to client [see Saidenberg, page.3, paragraph 0045] (*the computer program may be loaded from data storage devices into computer RAM*).
36. Accordingly, it would have been obvious to one of ordinary skill in the networking art at the time the invention was made to have incorporated Saidenberg's teachings of a system and method for providing integrated applications availability in a networked computer system with the teachings of Loucks to have a file is loaded to client from storage device, for the purpose of providing secure, convenient and integrate access to a variety of applications, tools and content in network [see Saidenberg, page. 1, and paragraph 0011].
37. However, Loucks does not explicitly disclose sending a token request for return of a token for writing right file.
38. In the same field of endeavor, Johnson discloses (e.g., system and method for controlling client machine access to a portion of a file with a variable length).

Johnson discloses sending a token revoke request for return of a token for writing right file [see Johnson col. 11, lines 35-48, and col. 13, lines 28-45] (*server send revoke token request for return write token to client*).

39. Accordingly, it would have been obvious to one of ordinary skill in the networking art at the time the invention was made to have incorporated Johnson's teachings of system and method for controlling client machine access to a portion of a file with a variable length with the teachings of Loucks to have sending a token revoke request for return of a token for writing right file, for the purpose of allows more efficient use of the data under most circumstances [see Johnson col. 8, line 65 to col.9, line 8].
40. As to claim 12, Loucks discloses the invention as claimed, Loucks discloses a client device according to claim 11, wherein the file relating to said token sent to said server for the second client that requested said token [see Loucks, col. 7, lines 57-61] (*when mtkr receives a "token revoke" request from mtkm (i.e., server), it returns list of tokens acquired to server as requested*). However, Loucks does not explicitly disclose the latest information on said storage device does not show.
41. In the same field of endeavor, Johnson discloses (e.g., system and method for controlling client machine access to a portion of a file with a variable length). Johnson discloses the latest information on said storage device does not show [see Johnson, col.5, lines 5-8] (*the file may not be accessing the latest updated data that has just been written*).
42. Accordingly, it would have been obvious to one of ordinary skill in the networking art at the time the invention was made to have incorporated Johnson's teachings of

system and method for controlling client machine access to a portion of a file with a variable length with the teachings of Loucks to have the latest information on said storage device does not show, for the purpose of allows more efficient use of the data under most circumstances [see Johnson col. 8, line 65 to col.9, line 8].

Allowable Subject Matter

43. Claims 4, 5, 9, 10, 13 and 14 would be allowable if rewritten to overcome the claim objection(s) above, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.
44. The following is a statement of reasons for the indication of allowable subject matter: In interpreting the claims, in light of the specification, Examiner finds claims 4, 5, 9, 10, 13 and 14 to be patentably distinct from the prior art records. The art of records fails to teach or suggest individually or in combination that “*token is linked to file range, data output means sends data in a range among files linked by token to server of client request token, and performs synchronous processing on storage device by writing data in arrange among files not linked by token, the data output means decides whether to send token of held file to server of the client requesting the token, or write file in storage device and perform synchronous processing on said storage device, based on the input/output capacity of network and said storage device*”, as claimed in claims 4, 5, 9, 10, 13 and 14.

Conclusion

45. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

46. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tammy T. Nguyen whose telephone number is 571-272- 3929. The examiner can normally be reached on Monday - Friday 8:30 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, *William Vaughn* can be reached on 571-272-3922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the

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Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Thanh Tammy Nguyen/

Examiner, Art Unit 2444

/William C. Vaughn, Jr./

Supervisory Patent Examiner, Art Unit 2444